

CLAIMS

What is claimed is:

1. A method for equalizing video transmitted over twisted pair cable comprising:

receiving an input video signal having a plurality of components;

generating a first plurality of compensated components by applying at least one compensation to each of said plurality of components of said video signal;

transmitting each of said first plurality of compensated components over a twisted pair cable to a receiving station, said first plurality of compensated components being transmitted over a plurality of twisted pair cables;

generating a second plurality of compensated components from said first plurality of compensated components by applying inverse compensation to compensate for accumulated losses in each of said first plurality of compensated components due to transmission over said twisted pair cable;

generating a third plurality of compensated components by applying, to each of said second plurality of compensated components, a desired phase skew such that all of said third plurality of compensated components are in phase;

outputting said third plurality of compensated components on an output device.

7. The method of claim 1, wherein said twisted pair cable is unshielded twisted pair.

8. The method of claim 1, wherein said phase skew is applied using a non-minimum phase zero filter, said non-minimum phase zero filter having a pole and zero that are equivalent, said pole and zero being adjustable to achieve said desired phase skew.

9. The method of claim 1, wherein said inverse compensation is adjustable.

10. The method of claim 1, wherein said first plurality of compensated components is generated in a transmitting station.

11. The method of claim 1, wherein said second plurality of compensated components is generated in said receiving station.

12. The method of claim 1, wherein said first plurality of compensated components and said second plurality of compensated components are generated in said receiving station.

13. The method of claim 1, wherein said first plurality of compensated components and said second plurality of compensated components are generated in a transmitting station.

14. A method for equalizing video transmitted over twisted pair cable comprising:

receiving an input video signal having a plurality of components, wherein said plurality of components comprises a color system's color components;

generating a first plurality of compensated components by applying high frequency boosting compensation to each of said plurality of components of said video signal;

transmitting each of said first plurality of compensated components over a twisted pair cable to a receiving station, said first plurality of compensated components being transmitted over a plurality of twisted pair cables;

generating a second plurality of compensated components from said first plurality of compensated components by applying inverse compensation to compensate for accumulated losses in each of said first plurality of compensated components due to transmission over said twisted pair cable;

generating a third plurality of compensated components by applying, to each of said second plurality of compensated components, a phase skew such

that all of said third plurality of compensated components are in phase, wherein said phase skew is applied using a non-minimum phase zero filter, said non-minimum phase zero filter having a pole and zero that are equivalent, said pole and zero being adjustable to achieve said desired phase skew;

outputting said third plurality of compensated components on an output device.

15. An apparatus for equalizing video transmitted over twisted pair cable comprising:

a transmitter receiving an input video signal having a plurality of components;

a first compensation network in said transmitter generating a first plurality of compensated components by applying at least one compensation to each of said plurality of components of said video signal;

a plurality of twisted pair cables for transmitting said first plurality of compensated components, wherein each of said first plurality of compensated components is transmitted over a twisted pair cable of said plurality of twisted pair cables to a receiving station;

a second compensation network in said receiving station for generating a second plurality of compensated components from said first plurality of compensated components by applying inverse compensation to compensate for

accumulated losses in each of said first plurality of compensated components due to transmission over said twisted pair cable;

a phase delay network in said receiving station for generating a third plurality of compensated components by applying, to each of said second plurality of compensated components, a desired phase skew such that all of said third plurality of compensated components are in phase;

an output device for outputting said third plurality of compensated components.

16. The apparatus of claim 15, wherein said plurality of components comprises a color system's color components.

17. The apparatus of claim 15, wherein each of said plurality of components comprises a high frequency region and a low frequency region.

18. The apparatus of claim 17, wherein said at least one compensation comprises boosting of said high frequency region such that said high frequency region of each of said plurality of components is received at said receiving station.

19. The apparatus of claim 15, wherein said inverse compensation comprises:

low frequency shaping to account for diffusion effect losses occurring during transmission over said twisted pair cable; and

high frequency shaping to account for skin effect losses occurring during transmission over said twisted pair cable.

20. The apparatus of claim 19, wherein said high frequency shaping comprises applying a compensation network that effectively compensates for said skin effect losses.

21. The apparatus of claim 15, wherein said twisted pair cable is unshielded twisted pair.

22. The apparatus of claim 15, wherein said phase skew is applied using a non-minimum phase zero filter, said non-minimum phase zero filter having a pole and zero that are equivalent, said pole and zero being adjustable to achieve said desired phase skew.

23. The apparatus of claim 15, wherein said inverse compensation is adjustable.

24. The apparatus of claim 16, wherein said color system is RGB.

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